

MOREYS *Solitaire* COFFEE

Takes the Short Cut From Roaster to Pantry

To be at its best your coffee must be fresh roasted and ground. Lost time from the roaster to your table means lost flavor.

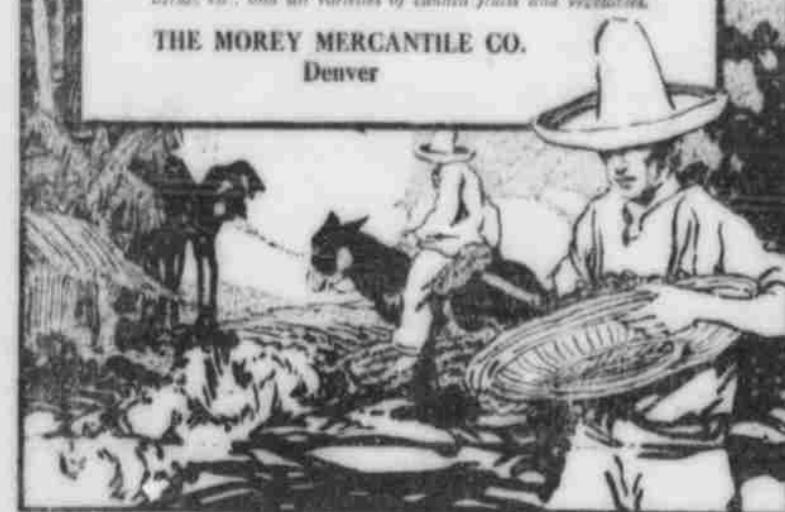
Moreys Solitaire Coffee is roasted in small quantities every day. The great demand for it prevents it from lingering on your grocer's shelves and losing its rare flavor. The air-tight tin further protects its goodness.

"The Best the Grocer Can Deliver"

Here are a few of the many members of the Solitaire family: Tea, Sassafras, Cinnamon, Peppermint, Ceylon, Green, Black, Green, Sea Foods, Orange Juice, Oysters, Olive Oil, Butter, Margarine, Sausage, etc., and all varieties of canned fruits and vegetables.

THE MOREY MERCANTILE CO.

Denver



Electrical Marvels on the Panama Canal

Never before has electricity been called upon to do so much, in such an entirely new and novel way, as at Panama. The hydro-electric generation of electrical energy and its distribution, the handling of ships by electric locomotives, the novel system of centralized switchboard control for the great locks, is but another triumph for electricity, a new departure in electrical engineering and an advance in mechanics equalled only by the Panama canal itself.

The power system for the opera-

tion of the locks, towing locomotives, lights for the locks and buildings, and motors not directly connected with the lock control, is composed of:

A 7500 kw-a. 2200 volt hydro-electric power plant at the Gatun dam.
A 4500 kw-a. 2200 volt Curtis turbine-generator electric power plant at Miraflores for emergency, lately used to supply power for construction work.

A double 44,000 volt transmission line across the Isthmus, connecting Cristobal on the Atlantic and Balboa

on the Pacific with the two power plants named.

Four 44,000-2200 volt substations stepping the line voltage down at Cristobal and Balboa, and up or down at Gatun and Miraflores, depending on which of the two plants is supplying power.

Thirty-six 2200-240 volt transformer stations for power, traction and light at Gatun, Pedro Miguel and Miraflores locks.

Stations at Cristobal and Balboa for coal handling plants, machine shops and dry docks.

Surplus Waters Generate Electricity

It is expected that the surplus water of Gatun lake will ultimately supply the electrical energy for the entire canal zone. During the building of the canal a steam plant, located at Miraflores, furnished the electrical current necessary for the construction work at the Pacific end. This steam plant will be maintained as a reserve in case of shutdown, low water, or damage to the transmission line. At present it seems certain that there will be available sufficient water to generate fully 6,000 kilowatts. During the rainy season, which prevail in the tropics, water will be plentiful and will be allowed to run to waste over the spillway of the dam. During the dry season the storage water will be drawn upon. The maximum quantity of water diverted for hydro-electric development is about 7 per cent of the minimum water supply and is the excess which is not required for lockage, evaporation and leakage.

The electricity generated at the Gatun power house will be distributed for the operation of the three big locks, to the permanent machine shops, to the dry dock, to the coal handling plant and other auxiliaries. It will also be used to light the locks and the villages of the canal zone. In all probability the current will also be extensively used for electric cooking in homes as fuel is scarce and costly upon the isthmus. There is also under consideration the electrification of the Panama railroad.

Details of the Water Power Station

The hydro-electric station is located adjacent to the north wall of Gatun spillway. The building has but one main operating floor, with a turbine pit and two galleries for electrical equipment. Each unit of the mechanical equipment consists of an individual headgate, penstock, governor, generator, exciter, oil switch and control panel. Water is taken from Gatun lake through a forebay which is constructed as an integral part of the curved portion of the north spillway approach wall. From the forebay the water is carried to the turbines through steel plate penstocks 259 feet long and 19 feet 6 inches in diameter. The headgates are raised and lowered by individual electric motors. The turbine-generating units are of the vertical type, the rotating parts of the generator and the turbine being mounted on the same shaft. Superimposed upon each turbine casing is a generator rated at 4,000 kilowatts, which will deliver three-phase 25-cycle current at 2200 volts.

Transmission of Current

The ENERGY GENERATED AT 2200 volts, 25 cycles, three-phase, will be carried along the east wing of Gatun dam by heavy cables in duplicate underground lines, and through tunnels under locks, into a transformer substation, situated on the east side of the locks. At the Gatun substation, which is to be situated at the north end of the hill upon which the present Atlantic division office building stands, the electric energy will be transformed from 2200 volts to 44,000 volts by means of step-up transformers.

The transmission line will run from Cristobal to Balboa, completely across the Isthmus, permitting distribution of energy both ways from Gatun. The line is to parallel the right of way of the Panama railroad for its entire length. At Cristobal and Balboa will be terminal substations similar to the Gatun substation. The terminal substations will receive the energy at 44,000 volts, less the voltage drop in the line, and step-down transformers will convert the pressure to 2200 volts, which will be the distributing voltage for all circuits. At Miraflores a substation will be installed for supplying energy for the motors and lamps of Pedro Miguel and Miraflores locks. If electricity is required along the line the transmission lines will be tapped by outdoor type of transformer substation equipment. This will probably be done at Calimito, to supply electricity to the high power wireless station; at Monte Lirio, to supply power to the lift bridge, and at any permanent town or military reservation which demands electric lights and power.

At Miraflores the present steam turbine-generators will be tied into the permanent electrical system through 2200 volt tie lines extending to the Miraflores substation. This steam station will serve as a reserve in the event the hydro-electric station at Gatun should be shut down. In emergency, energy from Miraflores will be transmitted back to Gatun and to the terminal substations at Cristobal and Balboa, insuring a continuity of service on the system at all times.

Marvelous Control Boards

The centralized control system for the Panama locks marks a wonderful advance in electrical engineering. The locks are operated by electricity and the controlling switchboards reproduce in miniature on the board, by synchronous indicators, every detail of operation, so the man in charge sees the complete movement of all gates, valves, fender chains, etc., reproduced before his eyes, eliminating any errors which might otherwise occur.

Control apparatus was required for thirty-six transformer stations, four substations and one generator station, and for the locks at Gatun, Miraflores and Pedro Miguel. The switchboards for transformer, substations and main stations possess many novel features, but the lock boards for "central control" are of a most unique design. They are miniature representations of the locks, chains and gates, and provide a ready means of control for operating the machinery of the main apparatus itself; besides indicating every movement and speed of motion of rising stem valves, fender chains and miter gates, and the open or closed positions of cylindrical valves and

meter forcing machines. And in addition to this the control switches are interlocked so that an improper sequence of operations is impossible. This part of the work involved upwards of a half million dollars for switchboard material alone.

The flow of water in the canals is controlled by rising stem valves. These

are located in the culverts at points opposite each end of each lock so that the culvert can be shut off at any desired point for filling a lock with from above, or upstream, or for emptying it by allowing it to flow out and down to the next lock. Since there are intermediate metering lock gates for use in locking through short canals, when the use of the whole lock of 1,000 feet would be wasteful of water, rising stem valves are also located in the side wall culverts at points near these intermediate gates. The rising stem valves are installed in pairs, one on each side and two others alternately on each side, to keep the vessel in the middle of the water-way and to stop it when it has reached the proper point and to prevent it from moving forward too rapidly.

After the vessel comes to a full stop in the forebay its position is given by the towing master to the switchboard attendant, who, by moving a control switch lever, causes the lowering of the fender chain, which is indicated by the miniature fender chain on the control board, after the lock gate is in the proper position. The fender chain is stretched across the canal to prevent the vessel from striking the gates if for some reason it should get beyond control. In such an event the fender chain brings the vessel to a full stop.

Now the vessel advances into the lock by means of the electric locomotives. The fender chain is raised behind it and then the massive gates are shut behind the miniature control board gates in the meantime indicating this movement. When the water in the lock has been raised or lowered, as the case may be, as shown on the water level indicators on the control board, these gates are opened and the boat is pulled into the next compartment and so on.

AGRICULTURAL COLLEGE IN FINE CONDITION

[Special Dispatch to Evening Herald]

Santa Fe, N. M., March 20.—Governor McDonald today took the report of Special Auditor Guillou on the condition of the State College of Agriculture and Mechanics at Mesilla Park. The report shows the college to be in splendid condition with 250 students, coming from nearly every state in the union and from a number of foreign countries.

WARREN McCARRICK SEEN IN ELMIRA

[By Leased Wire to Evening Herald]

Elmira, N. Y., March 29.—Warren McCarrick, the Philadelphia boy who disappeared from Philadelphia, was without doubt in this city Wednesday in the company of a man and woman. The child was taken to a barber shop and had his hair cut.

LEGAL NOTICES

ORDINANCE NO. 529.

Be it ordained by the mayor and city council of Albuquerque:

Section 1. That the salary of the city clerk of the city of Albuquerque shall be fixed at \$150 per month payable monthly.

Section 2. That the office hours of the city clerk shall be from 9 a. m. to 12 noon, and from 2 p. m. to 5:30 p. m. every business day and during those hours he shall be in his office, unless absent for good and sufficient reason.

Section 3. That all fees received by the clerk be paid into the general fund.

Section 4. That all ordinances and parts of ordinances in conflict here-with are hereby repealed.

Section 5. That this ordinance shall take effect from and after the installation into the office of the city clerk elected at the municipal election to be held in the city of Albuquerque on the 7th day of April, A. D. 1914.

Approved:
D. K. B. SELLERS.

Attest:
H. CHAS. ROEHL.
Clerk.

ORDINANCE NO. 527.

Be it ordained by the mayor and city council of Albuquerque:

Section 1. That the city councilmen of the city of Albuquerque, receive the sum of \$5.00 for each regular or special meeting of the city council at which they are actually in attendance; Provided, that no councilman shall receive compensation for attendance at more than three meetings within any one calendar month.

Section 2. That this ordinance shall take effect from and after the installation into offices of the councilmen elected at the municipal election to be held in Albuquerque in the month of April, A. D. 1914.

Passed and approved this 16th day of March, A. D. 1914.

Approved:
D. K. B. SELLERS.

Attest:
H. CHAS. ROEHL.
Clerk.

ORDINANCE NO. 526.

Section 1. Be it ordained by the mayor and city council of the city of Albuquerque:

That the mayor of the city of Albuquerque, New Mexico, shall receive a salary of \$100.00 per month, payable monthly.

Section 2. That this ordinance shall take effect from and after the installation into office of the mayor elected at the municipal election to be held in Albuquerque in April, A. D. 1914.

Passed and approved this 16th day of March, A. D. 1914.

Approved:
D. K. B. SELLERS.

Attest:
H. CHAS. ROEHL.
Clerk.

ORDINANCE NO. 525.

Be it ordained by the mayor and city council of the city of Albuquerque:

Section 1. That the property owners hereinabove named in Section 2 of this ordinance be, and they hereby are, notified to lay sidewalks in front of the property designated in Section 2 of this ordinance; sidewalks to be

of concrete and six feet in width, in conformity with the sidewalks in front of adjacent property.

Section 2. The following property

owners are hereby included in the provisions of this notice ordinance:

Lots 11-12; block 35; H. H. addition; owner —

Arno street; lots 28-31; block 3; L. and S. addition; Margaret E. Medler, owner.

Arno street; lot 12; block 3; L. and S. addition; Marie J. Sharpe, owner.

Arno street; lot 6; block 6; L. and S. addition; W. H. Deasy, owner.

Arno street; lot 7; block 6; L. and S. addition; J. A. Montoya, owner.

Arno street; lot 8; block 6; L. and S. addition; Li D. Leeper, owner.

Arno street; lot 9; block 6; L. and S. addition; No. 25 feet; P. J. Bacon, owner.

Arno street; lot 10; block 6; W. J. Delby, owner.

Arno street; lot 16; block 6; L. and S. addition; H. W. D. Bryan, owner.

Arno street; lot 11; block 6; N. T. Armijo addition; H. M. Daugherty, owner.

Arno street; lot 17; block 18; Mrs. L. Y. Towl West, owner.

Arno street; lot 18; block 18; Mrs. L. Y. Towl West, owner.

Arno street; lot 19; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 20; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 21; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 22; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 23; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 24; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 25; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 26; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 27; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 28; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 29; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 30; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 31; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 32; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 33; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 34; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 35; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 36; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 37; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 38; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 39; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 40; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 41; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 42; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 43; block 19; Mrs. L. Y. Towl West, owner.

Arno street; lot 44; block 19; Mrs. L. Y.